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AMERICAN VETERINARY REVIEW,

MAY, 1882.

ORIGINAL ARTICLES.

THE HORSE'S FOOT.

BY A. ZUNDEL.

(Continued from page 6.)

CONTRACTED HEELS—HOOF-BOUND.—*Continued.*

III. *Pathological Anatomy.*—We have indicated the external changes of the hoof. The tissues that have been long enclosed in the contracted foot become atrophied; molecular changes do not take place as in the normal state; they become changed in aspect, composition and properties; they become denser and more compact, and are no more able to fulfil, to the same extent, their physiological functions.

The plantar cushion is so completely pressed upon itself that the stratified structure of its fibrous layers can scarcely be distinguished, and the presence in the interstices of the yellow fibrous substance is with difficulty observed. It forms only a homogeneous mass, whitish in color, resisting in consistency, and lardaceous in aspect. The dilated bulbs which are above the cushion are also considerably diminished in size, and present, when cut through, a uniform white color, its composing substance being reduced to a single inelastic mass.

The unguial phalanx becomes deformed by degrees, loses its circular shape and becomes of an elongated oval form. Its lateral faces assume a perpendicular direction; its structure is modified; its substance becomes more compact, and the small vascular openings are obliterated, while the largest are increased

in size. Its work of obliteration is specially observable at the patilobe eminences, which seem to be crushed. The lateral cartilages are also much compressed, condensed and modified in their structure.

The navicular bone is also compressed, the sheath and its support not allowing the easy play of the tendons, and it is in this way that navicular disease may follow hoof bound. But there is a specially noticeable modification in the keratogenous apparatus, which, as a consequence of the arterial obliterations, fails to receive freely and actively the necessary amount of blood. The horny secretion proper to the podophyllous tissue, the white or soft horn, is reduced; the podophyllous tissue itself is atrophied; its lamellæ are less prominent and their separations are diminished in depth; the adherence of the podophyllous or keraphyllous tissues still exists where the circulation of the blood is not interrupted, but beyond, they are easily separated and often present deep excavations towards the sole.

If hoof bound advances slowly, the same atrophy of the sub-horny tissues takes place. Then, however, it proceeds by degrees, the tissues accommodating themselves in size to the gradually diminishing dimensions of the cavity where they are contained, and there is an equal proportion between the size of the hoof and the volume of the tissues enclosed in it. These being less compressed, there is less pain. In this manner an excessive contraction of the heels may sometimes exist without marked lameness.

IV. Prognosis.—This is the more serious as the disease is more developed. Total hoof bound is excessively tenacious, and resists the best curative measures, though if there is only a slight contraction at the heels, it is generally amenable to judicious treatment. The duration of the disease is an important factor in the question of the success of the treatment, as the condition of the os coronæ, os pedis, navicular bone, sesamoid sheath, plantar cushion and the atrophy of the keratogenous membranes have all to be taken into consideration.

The age of the diseased animal and any existing complications are, of course, circumstances which influence the prognosis in an important degree.

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V. *Etiology.*—Hoof bound, says H. Bouley, is not a simple fact, produced by a unique cause acting always in the same manner; it is, on the contrary, a very complex one, to the production of which a great number of causes of various character and intensity contribute with simultaneous or successive effects.

The hygrometric condition of the horny substance is a principal feature in the etiology of the disease. It is when the hoof loses by evaporation the moisture which it should contain that it contracts as all organic substances do, and its flexibility returns when by a sufficiently long immersion in a liquid, the moisture that it has lost is recovered. Observation proves that this disease often finds the conditions of its presence in circumstances which induce dryness in the part. In such cases the foot has the property of retracting, to an extreme degree, especially towards its posterior extremity, where the frog is situated, constituted as it is of a softer and more compressible substance than that of the wall. The same phenomenon takes place in the living structure that is observed upon the hoofs of dead feet; a phenomenon which cannot even be prevented by filling their cavity with plaster. During life the hoof is constantly permeated by a current of fluids which penetrate it from its depth to the surface. It is the serous fluid that the hoof is continually absorbing by the hygroscopic properties common in living tissues, which counterbalance the tendency of the foot to retract upon itself and keep it in the dimensions required for the perfect reception of the parts it covers. So long as the equilibrium is preserved between the loss of this fluid by evaporation and its renewal through the perspiration of the keratogenous apparatus, the hoof preserves its physiological form; but if this equilibrium is destroyed by an excess of the loss, then the condition occurs for the retraction of the hoof and the infliction upon the parts underneath of an excessive and painful pressure.

This explains why, as proved by observation, lameness in general and that of contracted heels especially, are more frequent in warm than in moist seasons. Long standing in the stable is also an efficient producing cause. The feet become dry upon a constantly dry bedding, and here also the influence of inaction must be taken into account. The disease is commonly found in stabu-

lation, but seldom when the animal is in pasture; and when it has existed it often disappears in the latter circumstances.

The alternation of dampness and dryness also influences perhaps more the genesis of the disease than dryness alone. A foot too much impregnated with dampness, which is afterwards left to the air, becomes harder than a normal one placed in the same conditions. It retracts easier also. It is probable that the water, in softening the superficial layers of the wall, also renders the evaporation of the liquids of its deep parts more active. In the ordinary condition of the foot, the evaporation is diminished by the impermeability of the external hoof, which it owes to its density; but where this hoof is softened by maceration, its fibres, partly disintegrated by the dissolution of the glutinous substance which keeps them as a compact mass, allow the air to penetrate in their interspaces; air which dries them to a certain depth; hence a proportionate movement of retraction of the entire hoof upon itself. This evil effect of an excess of moisture explains how it is that poultices or other moist applications which horse attendants abuse so frequently, may give rise to results entirely opposite to the one in view, and why the hoof becomes dry and brittle, if not contracted. These topical applications take off from the cortical layer of the foot its protecting varnish, and expose it to lose its water of growth.

Some of the practices in shoeing contribute also to the desiccation of the hoof; such is principally that which consists in rasping the wall from the coronary band to the plantar border; as also the too long continued contact of a hot shoe with the foot. Shoeing itself promotes the same result, as, protected by a shoe, the foot no longer wears normally and grows beyond normal limits. The mass of hoof, which, in the process of growth, has gone beyond the inferior limits of the podophyllous fissures, is no longer in contact with the living parts beneath, and they cease to be impregnated by the fluids which are thus constantly allowed to evaporate. It then dries up by evaporation and becomes hard, and retracts upon itself in such a manner that the circumference of the foot in the lateral diameter diminishes more or less, especially posteriorly, and thus forces the incurvations of the sole and of the bars (H. Bouley). If a horse remains shod

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conjunctivæ. These phenomena, either singly or collectively, may come to pass in swine or any other animal, entirely aside from any anticipatory trichin-infection.

The above mentioned phenomena must be looked upon as evidence of the irritation caused by the parasite in the intestinal mucosa, hence, swine dying or killed at this stage of the invasion would present the same pathological phenomena as those suffering from an intestinal catarrh of like grade. As the migration of the embryonal trichinæ gradually ceases, so do these abdominal phenomena relax in severity and finally disappear, unless a second invasion takes place. In their place appear phenomena more or less indicative of a disturbance of the motor functions. If these do not lead to death, they in their turn gradually cease with the encapsulation of the trichinæ.

Although the presence of trichinæ in the intestinal tract produces the phenomena of catarrh, yet in these experimental animals—swine—it was impossible to find any embryos among the fœces passed by them. This, by no means, excludes the possibility of finding them in such masses by others, yet the irritation caused by the trichinæ is so great, and the secretion of mucus so profuse, that the intestinal canal is lined by a viscid coating of sufficient volume to protect the majority of the trichinæ from the movements of the chymus and fœces in their passage.

Further, the accidental trichin-invasions to which swine are subjected in their ordinary course of life, are not generally accompanied by the introduction of such masses of trichinæ into the organism as takes place by experimental feeding. Hence, the catarrh produced would be by no means so profuse as by intentional feeding.

In none of the experimental swine, and at no time during the course of the experiments, were phenomena to be seen at all analogous to the more or less extensive subcutaneous oedema which comes to pass in man when infected with the parasites in question, and which serves essentially to support the diagnosis. The experiments of Prof. Leisering, the cultivated anatomist of the Royal Veterinary Institute at Dresden, entirely agree with the above. He says, "Bericht wher das Veterinair wesen in Konig-

reich Sachsen," 1862, p. 118. "One cannot speak of a trichinæ disease in swine, which characterizes itself by distinct and pathognomonic symptoms. In this relation the trichinæ deport themselves in a manner similar to the cysticerci, measles."

Leisering made some feeding experiments with trichinous flesh in a horse, but the most exact examination failed in discovering a single representative of the parasites in the flesh. It may also be casually remarked that fowls present some unknown hindrance to the invasion of their flesh by the embryonal trichinæ. I made quite a number of experiments with hens, feeding them for two weeks almost entirely on pork profusely infected, but was unable to find a single trichinæ in their muscles. Further research must endeavor to discover the cause of this singular immunity; whether it is that the triturative power of the gizzard is sufficient to kill the trichinæ, or what it is, which prevents invasion; further, are all varieties of domestic fowls thus immune to invasion? How do swine become infected under the natural order of things, or in other words, from whence do they derive the trichinæ?

That the trichinæ gain access to the organism by means of the mouth and alimentary canal is placed beyond all doubt.

Notwithstanding the apparent negative of the above quoted Berlin experiments, we have the very highest other authorities affirming from positive observation, that intestinal and embryonal trichinæ *do* leave the autositic organism with the fæces.

Leuckart says, vol. II, p 557, "As the sexually matured trichinæ are accumulated in great numbers in the intestines, and as the irritation caused by them leads to the development of a more or less intensive diarrhœa, so is it evident that the young must be frequently passed with the fæces. And not only free embryos, but also pregnant females are subject to this destiny, which has been sufficiently attested by such observers as Luckart, Vogel, Kuhn, Gerlach and others." "It is this form of migration, which, under favorable circumstances, also contributes to the distribution of the trichinæ," p. 558. "In fact, Haubner and Gerlach mention cases where they intentionally caused the infection of young (non-infected) swine by causing them to cohabit with known trichin-infected ovres."

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Such embryos and pregnant females become mixed with the manure and bedding of the hog pen and may be taken up by other swine, or even by the original autosite, thereby leading to a second invasion induced by itself.

By the above, however, we have a course of invasion by which the swine themselves are the sole factors.

Is there no other factor (or factors) in the question?

We have previously remarked that wild swine have been found infected with trichinæ, also that cats, dogs, foxes, the marmot and other wild animals serve as autosites to them.

** Dr. Clendenin, of Ostend, examined a pike caught in the North Sea, and found it infected with trichinæ. He conjectured that the *fish* must have fed from trichin-infected refuse in the harbor of Ostend and by this means have become infected."

But of all the animals by which these parasites have been found, none have that interest, aside from the swine, to the hygienist and experimental pathologist, which is enjoyed by the *rat*, on account of a hypothetical aetiological connection between the trichinæ, which, it has been found, infect them in large numbers, and those of swine.

Leisering is the originator of this hypothesis. The following figures sufficiently prove that the rat lodges trichinæ in its muscles, even to a larger extent than any other animal which has as yet been subjected to examination. Of 704 rats from different parts of Germany, which have been subjected to examination, 59 were found trichinous,—8.3 per cent.

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Of 51 rats caught at the knacker establishment at Spectacle Island, Boston Harbor, 30 were found by myself to be trichinous, the tongues having been used for examination. The proprietor

*Archiv fur Thierheilkunde Berlin, vol. 5, p. 147.

of this establishment kindly gave me an opportunity of examining 28 hogs which had been kept and fattened by them at the island mentioned. None were found trichinous. These hogs received no city swill of any kind. What flesh they received had been subjected to the heat necessary to extract the fats; otherwise they received nothing but corn meal. Forty rats caught at one of the large packing houses near Boston, were all found trichinous. Of 50 rats caught for me at different stables in the city of Boston, where no hogs had been kept, but *six* were found trichinous.

This rat theory, *i. e.*, that the swine become infected by hunting, killing, and eating rats which are trichinous, is open to most serious doubt, although it has able defenders.

Conversation with hog keepers has revealed the same difference of opinion, some saying they have seen swine hunt and kill rats, while others assert that such a thing never takes place, although they admit that a *hungry* hog would undoubtedly eat a rat if it had it.

Admitting that hogs may become infected from eating a trichinous rat we have still before us the questions: 1st. Is this the only source from which swine become infected? 2d. Is there no common source from which not only they, but wild animals, especially omnivora and carnivora, may become infected?

As according to German, and other American observations, as well as my own, American pork, and according to my very limited examinations, American rats, are much more infected with trichinæ than similar animals in Germany; it seems as if here in America, were the place to decide these important questions.

Important Questions! Not only are they of the utmost importance, from the fact that our own people frequently become infected, but also that people of other countries have been, and still will be infected with trichinæ from American pork; but also, the questions have a national importance from an economical point of view, for already a serious alarm is created, and pork growers and continental papers are feeding the flame, which, unless we ourselves awake to the necessity, may drive American pork largely out of continental markets.

To be continued.

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EDITORIAL.

REGULATION OF VETERINARY PRACTICE IN NEW YORK STATE.

For several years past various attempts have been made by members of the veterinary profession, and by gentlemen interested in the welfare of our domestic animals, to obtain from the Legislature in Albany, a law which would regulate the practice of veterinary medicine in the State, but in every instance the effort has proved abortive. Why such a law has not been enacted may be difficult to say. Whether the profession has not been strong enough to overcome the opposition that the bill met from other parties; or, because the bill was deficient; or because of its asking too much; or, because it interfered with the rights of private individuals; or whatever may have been the cause of failure, we are not informed. Nevertheless, as veterinary science is making its way little by little, and as its influence and usefulness are becoming by degrees better appreciated, the need of such regulation is felt, and though defeated, those who have interested themselves in the subject are likely to try again, if we may judge by the information which has been received through the newspapers.

It is evident, however, that the members of the veterinary profession, who have at heart the welfare of their noble pursuit, must keep a close watch on what may be attempted at Albany, under the pretext of regulating the practice of veterinary medicine. A bill which was reported some time ago as having been presented, and which we understand has been read twice in the Senate, referred to the Committee on Public Health, reported favorably from that Committee, and referred to the Committee of the Whole, is amongst the dangers which threaten the elevation of the profession in the State, and one we hope our Legislature will reject, as the means of organizing empiricism and quackery for ever in the State of New York, as every one can satisfy himself by the reading of sections of the bill. Far from being an act to regulate the practice of veterinary surgeons, and for the better protection and for the more humane and scientific treatment of

dumb animals, if passed, it would prove the most dangerous blow that the advancement of veterinary science could receive, and the clearest recognition of ignorance and quackery.

One of our correspondents sends us a project of a bill which is framed much after a similar one passed in favor of the dentists practising in the State, and on close examination, it will be found that the ideas which it carries are sufficiently liberal to almost encourage every one to support its passage. Being in favor of liberal offers toward the self-made men who are engaged as veterinarians, we would be well disposed toward the passage of a bill similar to the dental act. We have, however, a strong objection to the admission to regular standing of all men who have been engaged in practice, merely because they have been so for a number of years, and to grant them that recognition without some evidence of their being worthy of it. We know that there are in the State of New York as well as in others in the Union, self-made men who are fully deserving of a professional recognition. But many are practising as veterinarians who are ignorant of the slightest requirement of the veterinary surgeon. But a few days ago one of these men prescribed for two horses a dose of physic, the effect of which can be readily understood by looking at the prescriptions:

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M. T.—Use as directed.

Are we to accept this man or his like into the ranks of the veterinarians? Is he to be allowed to use our title while exhibiting such an amount of ignorance? It seems to us that it would be branding our noble profession as one of ignorance, if such individuals are to be allowed to continue to go on in their cruel practice under the shadow of proper legislation. Let us have the power to admit into our ranks good men, but not every one. It seems to us that in any bill which may be presented to the Legislature, there ought to be a clause by which the ability and

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knowledge of self-made men ought to be made evident by proper credentials, or by examination before a Board appointed for that purpose. The subject interests many of us, and we would be pleased to receive and to publish any communications on the subject which our readers may see fit to send us.

TERRITORIAL VETERINARIAN IN WYOMING.

We some time since noticed efforts which had been made in the Legislatures of several of the States to establish the position of State Veterinarian, and gladly announced the result obtained in the State of Illinois, when our friend and co-editor, Dr. Paaren, received the appointment for that great State.

The prevailing contagious lung disease of bovines in the eastern States, has been no doubt, the exciting cause of these movements in the west, and it was evident that the example of Illinois would soon be followed by other breeding and stock raising States. To-day we publish a bill which has passed the Legislature of Wyoming Territory, by which the position of Territorial Veterinarian is created. To Mr. Th. Sturgis is due the passage of the act, and to him the veterinary profession is indebted for the great step forward, which we hope will be followed by similar enactments in other States.

VENEREAL DISEASES OF MAN AND THE LOWER ANIMALS.

We begin in this issue the publication of a long article, contributed by Dr. C. Ring, of Ohio, on the subject of the etiology and philosophy of the venereal diseases of man and the lower animals. The subject has already been pretty extensively exhausted, and the majority of pathologists are satisfied that the two diseases are widely different from each other. Dr. Ring, who is a hard student and a deep investigator, believes in the theory that *glanders* and *syphilis* are but one disease, more or less modified according to the peculiar condition of the various individuals in which it develops itself, and he is quite anxious to have the subject presented to the veterinarians of America, and to

submit it for their appreciation and criticism. We regret that the length of the subject will not allow it to be published in a single number, though we will endeavor to have it complete before our readers as soon as possible.

NEW AUSTRALIAN VETERINARY JOURNAL.

A new veterinary journal, edited by three members of the profession, fellows and members of the Royal College of Veterinary Surgeons, has been started in Australia, under the name of *The Australian Veterinary Journal*. The paper will be issued monthly, and the appearance and contents of the first number justifies us in believing that it will be successful in its career, a result for which it may be certain of our sincere wishes.

LEGISLATION NEEDED FOR THE PREVENTION OF PLEURO-PNEUMONIA.

The pleuro-pneumonia controversy which is now attracting so much attention in Pennsylvania is not without a lesson. It leads us to repeat what we have already said, *i. e.*, that the measures adopted by the different States are wholly ineffective in eradicating this disease from our midst. So long as the laws are so short-sighted and imperfect as at present, we can hope for nothing, and we are forced to the conclusion above stated.

There are but two things for us as veterinarians to do. The first (and it is what we most earnestly hope for) is to secure legislation, by the General Government and by the different States, by means of which this pestilence may be "*stamped out*," and second, to *acknowledge the permanent footing of contagious pleuro-pneumonia in America*, and endeavor to reduce the annual losses from the same by the practice of inoculation.

What have been the chief obstacles in the way of our having had efficient legislation in reference to this disease?

First, the fact that cattle owners themselves have not possessed an accurate knowledge of the character of the disease, the losses entailed and its mode of spreading; second, the resistance

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that has been offered by a class of men calling themselves veterinarians, who have known even less than the owners of cattle or who have been influenced by cupidity and an utter disregard of the cattle interests both at home and abroad.

What can we say of this class of men? It can scarcely be possible that they do not *know* that the "lung-plague" is contagious. This fact is universally taught by every writer who is entitled to an opinion, and is abundantly proven in *every* outbreak of this malady that has ever occurred on this continent. There seems to be but one inference, and dearly will it cost a country that listens to men who are so ignorant that they cannot learn, or so selfish that they will not.

COMPARATIVE PATHOLOGY.

UPON A PARASITIC TUBERCULOUS OF DOG, AND UPON THE PATHOGENY OF THE TUBERCULOUS FOLLICLE.

BY M. LANLAINE.*

I recently had occasion to observe in the lungs of a dog the alterations produced by the eggs of a nematode, the *strongylus vasorum* (Baillet), whose identity with that of tuberculosis seems to me very interesting.

But before mentioning the facts which form the principal object of this note, I believe it is indispensable to resume, in a few words, the principal changes of migrations of the *strongylus* of blood vessels, such as they are known, or such as they can be supposed according to my observations.

Strongyli of blood vessels live, in their *adult state*, in the right ventricle, and the great divisions of the pulmonary artery of the dog, where they collect in more or less voluminous masses, males and females mixed together. These masses undoubtedly give rise, at the point of the vessel where they are immobilized, to an endarteritis, whose vegetations assume the form of threads or lamellæ anastomosed together, which support the parasitic ball and prevent its displacement by the current of the blood.

*Note presented by M. Bouley at l'Academie des Sciences.

It is in these central parts of the pulmonary circulation that the strongyli copulate. The fecundated eggs are transported, as they are hatched, in the finest and farthest divisions of the vascular ground of the artery where the adults are; that is, in the arterials, with a single layer of muscular fibres, or in the capillaries. It is there that they undergo the phases of their development. The embryos hatch in the interior of the arterials or of the capillaries, and soon emigrate towards the smallest bronchi, where they are found in great number under sections made for the microscope.

The presence of the embryos in the bronchi, which has not yet been mentioned, allows the legitimate supposition that they are expelled by the respiratory channels, to be afterwards accidentally introduced into the digestive apparatus of another dog. I am continuing the experimental verification of this supposition, suggested by preceding observations.

The lungs, whose vessels are filled with strongyli, are filled with grey granulations, semi-transparent, prominent, which give to the surfaces of section a rough aspect and realize, by their physical characters and their large number, all the appearances of granules. We must mention an important peculiarity relating to the localization of the parasitic granulations, which are seen to gather at the base of the pulmonary lobes, and are in smaller number going towards the apex, where they disappear almost entirely.

This localization, different from that of the lesions of tuberculosis, with the so well-known immunity of canines to spontaneous phthisis, is sufficient to prevent all mistake.

I have successively studied the histological characters of this pseudo tuberculosis, overlooked to this day, and the results I have arrived at belong to the discussion which goes on now relating to the anatomical specificity of tuberculosis, and its pathogeny. I will only mention of my observations the most general facts and the conclusions which derive from it.

The ova or embryos stopped in the fine arterials become the starting point of *a nodulous arteritis*, possessing in its structure all the characters which, since Koster, are granted to the elemen-

tary follicle, each nodule. This last is less abundantly ha-

The dog's strongyli, sufficient to fill a cell, and its origin, and the vessel. But the continuity of the wall suddenly impossible to formation of the cellular endothelium inside of the vessel proliferate, with those vessels.

There is the structure of Kiesser, undulating, enveloping the

I will also mention the most ordinary nodules which are in tuberculosis, *plexiform*, had taken place.

Evidently sufficiently important and the above mentioned of Mr.

Spontaneous follicle, under us to the common anatomical species.

According

tary follicles of tuberculosis. Indeed, one finds in the center of each nodulous nucleus *an egg or embryo lodged in a giant cell.* This last is surrounded by a crown of epithelial cells, more or less abundant, and by an external embryoneal zone which frequently has a tendency to become fibrous.

The details already mentioned upon the habits of the *strongyli*, in the different stages of their development, would be sufficient to prove that the cellular group formed by the giant cell, and its surrounding of epithelial cells, have an intra-vascular origin, and proceed from the endothelium of the obliterated vessel. But again, one might quite frequently observe the continuity of this last with the follicles, and to see that its size is suddenly increased at the point where the giant cell is; it is even possible to detect the preliminary alterations which arrive to the formation of the follicle. At some distance from this the vascular endothelium is hypertrophied, and its elements project on the inside of the vessel. In the neighborhood of the follicles these proliferate, and form a column of epithelial cells in continuity with those which surround the giant cell.

There is no doubt, then, that this is a nodular arteritis, with the structure of the elementary follicle as described by Mr. Kiesser, under the name of *miliary tuberculous aneurism*, or *enveloping nodule* (nodule engainant).

I will add that the preceding phenomena, taking place most ordinarily upon vessels closed to each other, form compound nodules which would have the greatest analogy with the tuberculosis, *plexiform angioma* of the same other, if their development had taken place round blood vessels of new formation.

Evidently the vascular theory of the follicle rests on ground sufficiently important to be definitively accepted as scientific; and the above named results add a strong weight to the experiment of Mr. Martin upon experimental tuberculosis.

Spontaneous reproductions, still artificial, of the tuberculous follicle, under the influence of the ovæ of the nematode, brings us to the conclusion, already admitted, viz.: the negative of the anatomical specificity of tubercle.

Accordingly, I am brought to the following conclusions:

1st. That the specific agent of tuberculosis acts in the same manner as the ova of strongyli, and carries its initial action upon blood vessels in which it circulates.

2d. That the tubercular follicle is nothing else but a nodulous vascularity.

3d. That it has no anatomical specificity.

In a further communication I will present a certain number of facts to establish the mode of development, and the significance of the giant cells.

EXTRACTS FROM FOREIGN JOURNALS.

A CASE OF MATERNAL AND FETAL DISTOCIA.

BY MR. L. BLANCHARD.

The patient, a cow, was in labor twenty-four hours when the gentleman was called. She had already been treated by empirics and the delivery seemed to be impossible. A vaginal examination revealed first a contracted os, which was found protruding in the vagina as an ovoid mass, rugous on its surface and giving a fibrous sensation to the touch. The opening of the neck is turned downwards, and allows with difficulty the introduction of the fingers. After using the means recommended in similar cases, such as belladonna, vaginal douches, &c., the division of the neck was made by the introduction of a blunt bistoury into it, and a double incision to the right and left of the median line was made. Entrance to the uterus being thus obtained, the hand detected the two fore feet of the foetus, but the head was found twisted back over the left shoulder, its inferior face being turned upwards. With a hook, the head, after many manipulations, was brought in good position, but as by the exertions required the symphysis of the lower jaw was about to be divided, the hook was then secured on the vomer, and the head being properly secured, the calf was extracted, not without difficulty. At first the little subject seemed to be dead, but by artificial respiration he was revived. He was carefully cleaned, and an hour later was sucking its mother. The cow also made a good recovery.—*Journal de Zootechnie.*

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THE TREATMENT OF LAMENESS DUE TO EMBOLISM.

BY MR. COLLIN.

The author insists upon absolute rest as the best treatment in cases of embolism, and as an evidence, mentions a case where the arterial lesions existed in the ramification of the posterior aorta; though the result was not as entirely satisfactory as it might have been, the animal having been destroyed.

The subject was a mare, which after having wintered to the 23d of February, 1880, was put to work on that day, and after half an hour was suddenly taken lame in the left hind leg. When returned to the stable she dropped down, and after several hours was found apparently perfectly well. Three days after, she was put to work again, with the return of the same symptoms and the general manifestations accompanying embolisms. Mr. Collin being then called, several hours afterwards put the animal to exercise and the lameness returned after a few minutes. The diagnosis of embolism being made, the following treatment was ordered: daily exercise of an hour first, to be gradually increased, dry friction over the hind parts of the animal. Improvement soon became manifest, and a month later the animal was able to work for three or four hours in succession. For some reason, however, the mare, after the 1st of June, was allowed to remain in the stable for twenty-eight days without working, and when she was put in harness the lameness returned in a short time, as bad as ever. She was then destroyed, and at the post mortem the posterior aorta and the external iliacs were found diseased, and containing clots of blood, of a regular form, and loosely adherent to the external coat of the artery. The right iliac was entirely obliterated, the left most completely so. The femorals were also more or less obliterated. The clots in these blood vessels presented different degrees of organization, and in some resolution seemed to have been going on when the animal was under treatment, but was stopped as soon as the animal was put to permanent immobility.—*Journal de Zootechnie.*

AN INTERESTING CASE OF LATENT GLANDERS.

BY MR. A. BARRIER.

This is a case in which the disease had not been detected for a period of about twenty-two months. The subject an Anglo-Norman mare, seven years old. She was in 1878 in a regiment of cavalry where glanders existed. Six months later she was sold, and presented then nothing abnormal but a slight cough. This lasted for twenty-two months, when she was treated for a capped hock of the left leg, which resisted all forms of treatment for sixteen days. At that time she showed all the signs of health. The capped hock was punctured with a red hot wire, with the introduction of a seton. Some iodine injections were made in the sac and a coat of plaster of paris mixed with sulphate of iron and water applied on the outside. Several days after, the tumor had disappeared. On the 16th of January she refused her food, and became feverish. Fearing an attack of pneumonia, she was treated accordingly, but without any change in her condition. Ten days later, a tumor of the size of a hen's egg, hard, painful and slightly oedematous, appeared in the left jugular groove. Four days later, the left fore fetlock had a small circular wound, of bad aspect, greyish, bleeding and covered with a scab which was adherent to the hairs. Close observation revealed another little sore on the right flank. The following day a second sore appeared on the left fore leg. A dose of aloes hastened the development of the disease, and the symptoms following its effects were such that no more doubt could exist as to the nature of the disease, and the animal was destroyed.

The skin then showed the lesions met with in farcy. The lymphatic glands were swollen, infiltrated and in some cases purulent. In the nasal cavities no ulcerations were found on the mucous membrane, but the inferior maxillary sinus was filled with pus and its mucous membrane thickened and congested. In the larynx and trachea the mucous membrane was thickened and infiltrated. In the thorax the lungs irregularly bosselated by mucous tumors, hard, yellowish and of various sizes, more abundant on the dorsal border, where they were largest. They were not

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purulent, but allowed the escape of a few drops of serosity. Numerous small tubercles were also found, some of recent, others of old formation. The bronchial ganglions were hypertrophied, indurated, fibrous in consistency and slightly purulent.—*Archives Veterinaire.*

OBSERVATIONS TO ASSIST THE DIAGNOSIS OF TRAUMATIC PERICARDITIS OF BOVINES.

BY M. BONNIGAL.

1st case.—A cow, four years old, was sick for three weeks; was treated successively for indigestion, enteritis and then general anaemia. In her history it was stated that she had first been tympanitic, had lost her appetite, then lost her milk, and was becoming very weak. She had two large swellings, one at the dewlap and the other at the base of the tongue. When seen, the general symptoms excluded abdominal troubles. The swelling and condition of the circulation indicated trouble in that apparatus. The swellings were neither warm nor painful; the venous pulse was well marked at the dilated jugulars. Percussion revealed nothing in the thorax, but auscultation showed absence of normal sounds and singular actions of the heart. When the animal was exercised for a minute only, dyspnoea was threatening and the frequency of the beatings of the heart increased. It was a pericarditis, which was believed to be traumatic, in taking into consideration the symptoms of the animal when first taken sick. A needle was said to be the cause of it. The animal was destroyed, and at the post mortem a fistulous tract, running from the rumen to the right auricle was found, with a large needle in it. The pericardium was strongly indurated on its two coats. Its cavity and the size of the heart were double their normal conditions. The sac was filled with yellow, thick, purulent fluid.

2nd case.—This case has about the same history; considerable swelling on the dewlap; the jugulars dilated; venous pulse well marked; no dyspnoea after exercise. Percussion, negative; auscultation revealed the beatings of the heart to be very weak, rapid and irregular. Same diagnosis is made and at the post mortem a knitting needle was found floating in the cavity of the

pericardium, in the fluid which it contained. All the lesions of extensive pericarditis existed.

Among the conclusions the author states that pericarditis of bovine, easily recognized, can be considered traumatic when it is preceded by abdominal disturbance.—*Archives Veterinaires.*

PLEURO-PNEUMONIA CONTROVERSY.

An important arbitration which is now attracting considerable attention from veterinarians and agriculturists, and which merits the attention of all classes of men, from its importance, is progressing in Delaware county, Pennsylvania. The case in its primary form was one for damages. The plaintiff, Mr. Alonzo Parker, having sued the defendant, Mr. Maris Worrall, for the same upon the ground that he (Worrall) disobeyed the quarantine orders of the laws of the State regarding pleuro-pneumonia, which the defendant then had upon his farm.

Mr. Worrall, through his counsel, has chosen the ground of contest that the disease is not contagious, and the case has resolved itself into this one question, upon which, in the judgment of all true scientific men, there is but one decision, and that is in the affirmative.

Weekly meetings have been held before three arbitrators, one of whom is an agriculturist, another a merchant, while the third is a Justice of the Peace. They are all intelligent and well educated men, and their decision is awaited with much anxiety, as one of our veterinary inspectors here has said that the responsibility of the prevalence of this much-dreaded disease in Delaware county has arisen from the fact that certain men, who term themselves veterinary surgeons, have attempted to treat and cure the disease.

The history of these cases carries us back to November, 1880, when pleuro-pneumonia made its appearance on Mr. Worrall's farm; and soon, from the lack of prompt measures of extermination, the farmer's entire flock became affected, eleven of which were afterward destroyed by the State authorities, and the owner

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compensated for the same. At this time the usual quarantine orders were issued to Mr. Worrall, but they were not obeyed; he allowing his cattle to run in a field that joined Mr. Parker's farm. Again, one of Mr. W's cows died in a stream that passes through both farms; that the animal was removed from the water and buried about one foot deep on the banks of the stream, where afterwards it became exposed by the scratching of dogs, and, at times, I believe, the waters of the stream washed over it. Likewise, when it rained, the washings would sink into the stream. Mr. Worrall's cattle drank from this stream, as did those of Mr. Parker, and several other farmers lower down along its course, but none but Mr. Parker's contracted the disease.

Mr. Worrall's cattle contracted the disease, it is supposed, from an animal that was purchased of a Baltimore drover.

These facts have been elicited through a number of witnesses on both sides, who have already been examined.

Mr. Broomal, counsel for the defendant, has termed the commission here for suppressing pleuro-pneumonia, the "Stalwarts, or Cattle-Killing Commission,"—or all those who consider the best method of stamping out a disease is by destroying those affected.

Among those who have been called as experts are Dr. J. W. Gadsden, one of the U. S. Veterinary Inspectors, Dr. Bridge, a State Inspector of Penna.; Dr. McCart and Dr. Birch, members of the faculty of the Penna. Veterinary College (an institution that the examination proved only existed in name); Dr. Ward B. Rowland, of the American Veterinary College; Dr. Young and Dr. Chom. Doctors Gadsden, Bridge and Rowland contended that this disease is contagious, the former in a very elaborate manner, by plates and diagrams of sections of diseased lungs, and quoting from the highest veterinary writers on both continents. Dr. McCart, in his testimony, as well as Drs. Young and Birch, acknowledged the unanimous opinion of its contagiousness by all authorities, they only quoting one writer who did not. This writer proved to be Dr. McClure, formerly connected with the Philadelphia Veterinary College. Drs. McCart, Birch, Young and Chom all believed that this disease arose from badly venti-

lated, lighted and drained stables, and from lack of proper care and attention. Dr. Young's testimony varied very much, he believing it contagious in certain stages of the disease, but *curable*. His cross-examination proved him to have occupied both sides of the fence.

Dr. Chom advocated its non-contagiousness, and, quoting from his testimony, I give you a peculiar and original theory he sets forth. He says: "The way disease spreads from herd to herd is something like this: along that creek there were certain grasses and weeds that had grown the season before, and there being a great deal of snow in the winter, it kept it down and killed it. In the spring, where it rotted, the gas or scent that went up from it would poison the blood, and what would produce the disease in one lot of cows on that creek would produce it in another, especially if the herd had been kept in a barn not very healthy."

At the last meeting, Sec'y Edge, of the State Board of Agriculture, was examined. His testimony was principally in reference to the laws of our State in regard to this disease, which he acknowledged to be very far from what they should be.

The case still continues its meetings, but promises to soon draw to a close, when I shall be pleased to inform your readers of the verdict.

Very truly yours.

W. HORACE HOSKINS, D. V. S.

MUSEUM PRESENTATION.

SPECIMEN PRESENTED TO THE A. V. C., BY DR. JOHN REYNOLD,
of Sheperdstown, Md.

FRACTURE OF THE NECK OF THE FEMUR.

The incomplete history of the case is about as follows:

A cow had received a fracture of the off hind leg; she had recovered and had given birth to several calves without any trouble.

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are healthy, with a fracture of the right femur, just below the articular head of the bone, at the neck. The head is forced into the acetabulum, and has caused an elevation of the inner plate of the ilium, part of which, however, is destroyed, and allows the head of the femur to form the anterior border of the obturator foramen. On looking at the interior face of the pelvis, a portion of the cotyloid cavity is seen, about $\frac{1}{3}$ of it; the remaining is filled by the head of the femur, which has slipped outside of it, backwards. The head is firmly secured by bony deposits, and a false articular surface, irregular in shape but smooth, is situated at its inferior face, and must have been articulated with the body of bone. The obturator foramen is much reduced, its antero-external border presenting irregular bony deposits, and showing the round and smooth surface of the head of the femur.

SANITARY LEGISLATION.

A BILL FOR AN ACT TO SUPPRESS AND PREVENT THE DISSEMINATION OF CONTAGIOUS AND INFECTIOUS DISEASES AMONG DOMESTIC ANIMALS.

Introduced in the Council by MR. THOMAS STURGIS, of Cheyenne. Passed by the 7th Legislative Assembly of Wyoming Territory, March, 1882.

Be it enacted by the Council and House of Representatives of the Territory of Wyoming:

SECTION 1. That the Governor of the Territory is hereby authorized to nominate, which nomination may be made upon the recommendation of the Stock Growers' Association of the Territory, and by the advice and consent of the Council, appoint (without necessary delay after the passage of this act) a competent veterinary surgeon, who shall be known as the Territorial Veterinarian, and on entering on his duties shall take an oath to well and truly perform his duties as provided by law.

SEC. 2. The duties of said veterinarian shall be as follows: To investigate any and all cases of contagious and infectious disease among domestic animals in this Territory, of which he may have knowledge or which may be brought to his notice by any

resident in the locality where such disease exists. And it shall also be his duty in the absence of any specific information, to make visits of inspection to any locality where he may have reason to suspect that there is contagious or infectious disease and to inspect under the regulations of this act all domestic animals that may arrive at any railroad station in this territory, when these animals are such as to warrant the presumption that they are intended to remain in the territory, and are to be, or may be, used for breeding purposes therein. And it shall be the duty of the owner, or in his absence, of the person in charge of such animals so arriving, to notify the Territorial Veterinarian without delay, and not to allow such animals or any of them to leave the place of arrival until they shall have been examined by the Veterinarian, and his certificate obtained that all are free from disease. And no animal pronounced unsound by the Veterinarian shall be turned loose, removed or permitted to escape, but shall be held subject to the order of the Veterinarian. Any person failing to comply with this provision shall be deemed guilty of a misdemeanor, and upon conviction shall be fined not less than fifty nor more than five hundred dollars for each offense.

SEC. 3. In all cases of contagious or infectious disease among domestic animals in this territory, the Veterinarian shall have authority to order the quarantine of the infected premises, and in case such disease shall become epidemic in any locality in this territory, the Veterinarian shall immediately notify the Governor of the Territory, who shall thereupon issue his proclamation forbidding any animal of the kind among which said epidemic exists to be transferred from said locality without a certificate from the Veterinarian, showing such animal to be healthy.

SEC. 4. In any case of epidemic disease where premises have been previously quarantined by the Territorial Veterinarian, as before provided, he is further authorized and empowered, when in his judgment necessary, to order the slaughter of any or of all diseased animals upon said premises and of all animals that have been exposed to contagion or infection, under the following restrictions: Said order shall be a written one and shall be made in duplicate and there shall be a distinct order and duplicate for each

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owner of the animals condemned, the original of each order to be filed with the Governor, and the duplicate given to said owner. And, further, before slaughtering any animal or animals that have been exposed only and do not show disease, the Veterinarian shall call in consultation with him two respectable practicing veterinarians or physicians, residents of the territory, or if this be impossible, then two reputable and well-known stock owners, residents of the territory, and shall have the written endorsement upon his order of at least one of said consulting physicians or stock owners, stating that such action is necessary, and the consent of the owner or persons in charge, before such animal or animals shall be slaughtered.

SEC. 5. Whenever, as herein provided, the Territorial Veterinarian shall order the slaughter of one or more animals, he shall at the time of making such order notify in writing the nearest Justice of the Peace, who shall thereupon summon three disinterested citizens (who shall be stock owners) of the neighborhood to act as appraisers of the value of such animals. Said appraisers, before entering upon the discharge of their duties, shall be sworn to make a true and faithful appraisement without prejudice or favor. They shall, after making their appraisement, return certified copies of their valuation, a separate one being made for each owner, together with an accurate description of each animal slaughtered (giving all brands, earmarks, wattles, age, sex and class as to whether American, half-breed or Texas) to the Justice of the Peace by whom they were summoned, who shall, after entering the same upon his record and making an endorsement upon each, showing it to have been properly recorded, return it, together with the duplicate order of the Veterinarian, to the person or persons owning the animals slaughtered, and it shall be the duty of the Territorial Veterinarian to superintend the slaughter of such animals as may be condemned, and also the destruction of the carcass, which latter shall be by burning to ashes, and shall include every part of the animal and hide, and also excrement as far as possible. He shall cause the said slaughter and burning to be done as cheaply as practicable, and shall pay the expense from the contingent fund hereinafter provided, taking proper vouchers for the same.

SEC. 6. The Territorial Veterinarian shall make a report at the end of every year to the Governor, of all matters connected with his work, and the Governor shall transmit to the several boards of County Commissioners such parts of said reports as may be of general interest to the breeders of live stock. The Governor shall also give information in writing as rapidly as he obtains it to the various boards of County Commissioners, of each cause of suspicion or first eruption of disease in each locality, its course and the measures adopted to check it.

SEC. 7. Whenever the Governor of the Territory shall have good reason to believe that any disease covered by this act has become epidemic in certain localities in another State or Territory, or that conditions exist which render domestic animals liable to convey disease, he shall thereupon, by proclamation, schedule such localities and prohibit the importation from them of any live stock of the kind diseased into this Territory except under such restrictions as he may deem proper. Any corporation or any person or persons, who, after the publishing of such proclamation, shall knowingly receive in charge any such animal or animals from any one of said prohibited districts, and transport or convey the same within the limits of this Territory, shall be deemed guilty of a misdemeanor, and upon conviction, fined not less than \$100 nor more than \$10,000 for each and every offense, and shall further become liable for any and all damages and loss that may be sustained by any person or persons by reason of the importation or transportation of such prohibited animals.

SEC. 8. It shall be the duty of any person or persons who shall have or suspect that there is upon his or their premises, any case of contagious or infectious disease among domestic animals, to immediately report the same to the Territorial Veterinarian; and a failure so to do, or any attempt to conceal the existence of such disease, or to wilfully or maliciously obstruct or resist the said Veterinarian in the discharge of his duty as hereinbefore set forth, shall be deemed a misdemeanor, and any person or persons who shall be convicted of any of the above acts or omissions shall be fined not less than \$50 nor more than \$500 for each and every such offense, shall forfeit all claims to indemnity for loss from

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the Territory, and upon conviction a second time, shall, in addition to the above-named fine, be imprisoned for a term not less than thirty days, nor more than six months.

SEC. 9. The following regulations shall be observed in all cases of disease covered by this act. First, It shall be unlawful to sell, give away, or in any manner part with any animal affected with or suspected of contagious or infectious disease; and in the case of any animal that may be known to have been affected with or exposed to any such disease within one year prior to such disposal, due notice of the fact shall be given in writing to the party receiving the animal. Second, It shall be unlawful to kill for butcher purposes any such animal, to sell, give away or use any part of it or its milk, or to remove any part of the skin. A failure to observe these provisions shall be deemed a misdeameanor, and on conviction shall be punished by a fine not less than \$100 nor exceeding \$500. It shall be the duty of the owner or person having in charge any animal affected with or suspected of any contagious or infectious disease to immediately confine the same in a safe place, isolated from other animals, and with all necessary restrictions to prevent dissemination of the disease until the arrival of the Territorial Veterinarian. The above regulations shall apply as well to animals in transit through the territory as to those resident therein, and the Territorial Veterinarian, or his duly authorized agent, shall have full authority to examine, whether in car, or yards or stables, all animals passing through the territory or any part of it, and on detection or suspicion of disease to take possession of and treat and dispose of said animals in the same manner as is prescribed for animals resident in the Territory.

SEC. 10. All claims against the Territory arising from the slaughter of animals under the provisions of this act shall, together with the order of the Veterinarian and the valuation of the appraisers in each case, be submitted to the Territorial Auditor, who shall examine them without unnecessary delay, and for each one that he finds to be equitable and entitled to indemnity under this act, shall issue his warrant on the Territorial Treasurer for the sum named in the appraisers' report.

In auditing any claim under this act it shall be the duty of the Auditor to satisfy himself that it does not come under any class for which indemnity is refused by this act, and he shall require the affidavit of the claimant to this fact, or if the claimant be not cognizant thereof, then of some reputable person who is so cognizant thereof, and also the certificate of the Veterinarian (whose duty it shall be to inform himself fully of the facts) that in his opinion the claim is legal and just, and the Auditor may, at his discretion, require further proof. The indemnity to be granted shall be two-thirds of the ordinary value of the animal as determined by the appraisers, without reference to its diminished value because of being diseased. It shall be paid to the owner upon his application and the presentation of the proofs prescribed herein; and it shall be the duty of said owner to make such application within six months of the slaughter of the animal for which payment is claimed, failing which such claim shall be barred by limitation.

These payments shall be made by the Territorial Treasurer as before provided, and for the fund provided for the purpose by this act.

The right of indemnity under this act is limited to animals destroyed by reason of the existence or suspected existence of some epizootic disease generally fatal and incurable, such as rinderpest, hoof and mouth disease, pleuro pneumonia, anthrax or Texas fever among bovines, glanders among horses, and anthrax among sheep. For the ordinary contagious diseases not in their nature fatal, such as scab and hoofrot in sheep, and epizootic influenza in horses, no indemnity shall be paid.

The right of indemnity shall not exist, and payment of such shall not be made in the following cases: First, For animals belonging to the United States. Second, For animals that are brought into the Territory contrary to the provisions of this act. Third, For animals that are found to be diseased or that are destroyed because they have been exposed to disease before or at the time of their arrival in the territory. Fourth, When an animal was previously affected by any other disease, which, from its nature and development, was incurable and necessarily fatal. Fifth,

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When the owner or person in charge shall have knowingly or negligently omitted to comply with the provisions of section 8 and 9 of this act. Sixth, When the owner or claimant at the time of coming in possession of the animal, knew it to be diseased or received the notice specified in the first clause of section 9 of this act.

SEC. 11. The Territorial Veterinarian shall receive for his services the sum of \$2,500 per annum, together with his necessary traveling expenses when in performance of his duty. These payments shall be made from the fund provided by this act, the salary from the appropriation for salary and the traveling expenses from the contingent fund, upon vouchers signed and sworn to by him and approved by the Governor, separate vouchers being made for salary and expenses. No person shall be competent under this act to receive the appointment of Territorial Veterinarian who is not, at the date of his appointment, a graduate in good standing of a recognized college of veterinary surgery either in the United States, Canada or Europe. He shall hold his office for two years; he may be removed for cause by the Governor, who shall also have power to fill a vacancy. The appraisers herein provided for shall each receive five dollars for each day or part of day they may be actually employed as such, which shall be paid from their county fund upon the certificate of the justice who summoned them. The justice shall receive his ordinary fee for issuing a summons, to be paid out of the county fund. The members of the Board of Health, veterinarians, physicians or stock owners called in consultation by the Veterinarian, shall receive five dollars for each day or part of day they may be actually employed, and ten (10) cents per mile mileage for distance actually traveled, which sums shall be paid from the Veterinarian's contingent fund hereafter provided. For this and other incidental expenses connected with his work and made his duty by this act, such as traveling expenses, causing animals to be slaughtered and their carcasses burned, and disinfecting infected premises, the Veterinarian shall have at his disposal the sum of \$3,000, which shall be known as the Veterinarian contingent fund. Before entering on the discharge of his duties he shall give good and sufficient security in the sum of \$5,000 for the proper management of the same. He

shall make a sworn statement semi-annually to the Governor, supported by full vouchers of the amount disbursed; any part of the \$3,000 not used shall be covered into the Territorial treasury. No constructive mileage shall be paid under this act.

SEC. 12. The liability of the Territory for indemnity for animals destroyed under the provisions of this act in any two years is limited by, and shall in no case exceed the amount especially appropriated for that purpose and for that period.

SEC. 13. This act shall take effect from and after its passage.

AN ACT TO REGULATE THE PRACTICE OF VETERINARY MEDICINE IN NEW YORK.

STATE OF NEW YORK, No. 187.

March 28, 1882.

IN SENATE.

Introduced by Mr. Koch—Read twice and referred to the Committee on Public Health. Reported favorably from said committee and to the Committee of the Whole.

AN ACT to regulate the practice of veterinary surgeons, and for the better protection, and for the more humane and scientific treatment of dumb animals.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Every person who shall hereafter practice veterinary medicine and surgery shall be entitled to the possession of, or shall hold a diploma or certificate of qualification from an incorporated veterinary school, or incorporated veterinary institution or organization, and shall register said diploma or certificate, or a duly authenticated copy thereof, in the office of any County Clerk, in any county in this State, where such person shall practice veterinary medicine or surgery.

SEC. 2. Any person practicing veterinary medicine or surgery in this State, without having been duly registered as required in section one of this act shall be guilty of a misdemeanor.

SEC. 3. This act shall take effect the first day of January, eighteen hundred and eighty-three.

(Senate No. 187.)

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COLLEGE COMMENCEMENT.

MONTREAL VETERINARY COLLEGE.

The examinations of this institution, which have been conducted during the past two weeks, were brought to a close yesterday by a final oral examination conducted by the Board appointed by the Council of Agriculture, consisting of Messrs. Wm. Bryden, V.S., Boston, Mass.; Archibald McCormack, V.S., Beaharnois, P.Q.; Charles Levesque, V.S., Berthier-en-haut, P.Q.; C. J. Alloway, V.S., Montreal; J. A. Couture, V.S., Quebec, and Dr. Leclere, Montreal.

The distribution of prizes and diplomas took place at 4 p.m., in the presence of the professors and friends of the college. Among others we observed Messrs. D. Morrice, J. C. Baker, A. J. Somerville,—Casgrain, Prof. Osler, Dr. Jas. Bell, etc.

DR. GEO. LECLERE occupied the chair and, in the name of the Council of Agriculture, presented the diplomas. He expressed the great pleasure it gave him to be present at this the sixteenth convocation of the College, having been at the first. During the period the college had been in existence the progress had been most marked and encouraging, for, notwithstanding the fact that three sessions of six months were required, there had been a steady increase in the number, which this session was 43, and there had also been an improvement in the educational standing of the students. As one of the examiners, he was particularly satisfied with to-day's examination.

Mr. David Morrice presented the prizes, and was followed by addresses from Prof. Osler and Dr. G. O. Baudry, who addressed the students in French. The farewell remarks were made by Principal McEachran.

The following students enregistered during the past session:—Henry C. Kingman, Middleboro, Mass.; T. J. O'Connell, Salem, Mass.; C. B. Robinson, Middlemarch, Ont.; Jöseph M. Skally, Boston, Mass.; Geo. Rennicks, Huntingdon, P. Q.; W. H. Klock, Aylmer, Ont.; Jno. B. Green, Yellow Springs, Ohio; A. W. Clement, Lawrence, Mass.; Geo. W. Goetz, Buffalo, N.

Y., U. S.; J. E. Gardner, Springfield, Mass.; Fred. Torrance, B. A., Montreal: Wm. Bell, Kars, Ont.; C. D. Bancroft, Knowlton, P. Q.; A. J. Chandler, Coaticook, P. Q.; B. A. Pomeroy, Compton, P. Q.; E. P. Ball, Stanstead, P. Q.; Pierre Gadbois, Terrebonne, P. Q.; T. A. Bishop, Montreal; D. E. P. Campbell, St. Hilaire, P. Q.; Jas. Brodie, North Georgetown, P. Q.; H. Pilon, Vaudreuil, P. Q.; P. F. Labelle, St. Dorothee, P. Q.; J. A. Levis, St. Andre, P. Q.; Vilade Seguin, Regand, P. Q.; E. C. Crevier, St. Laurent, P. Q.; C. Drouin, Montreal; O. de Maisonneuve, Terrebonne; Wilfred Wilson, St. Philippe, P. Q.; H. Quimby, Rochester, N. Y.; Jas. A. Duncan, Duncanville, Ont.; E. White, Montreal; Walter Wardle, Montreal; W. P. Robins, Montreal; J. B. Caverhill, Montreal; Alex. Glass, Philadelphia, Pa., U. S.; A. W. Mears, Ottawa, Ill., U. S.; John Henry, Jr., Charles City, Iowa; Paul Paquin, St. Andrews, P. Q.; Fred. Paquin, St. Andrews, P. Q.; Joseph Labelle, St. Rose, P. Q.; A. P. Belaire, St. Rose, P. Q.; Carey P. Drake, Montreal; E. Crandall, Geneva, N. Y.; C. L. Morin, St. Lin, P. Q.

GRADUATES.

The following gentlemen having fulfilled the requirements of the curriculum and passed the successful examinations, written and oral, in botany, chemistry, physiology, *materia medica*, anatomy, obstetrics and cattle pathology and practice of veterinary medicine and surgery, received the diploma of the College: —A. J. Chandler, Coaticook, Que; Walter Wardle, Montreal; Alexander Glass, Philadelphia, Pa., U. S.; Fred. Torrance, B. B. Montreal; C. B. Robinson, Middlemarch, Ont.; Joseph M. Skally, Boston, Mass.; D. E. P. Campbell, St. Hilaire, Que.; Paul Paquin, St. Andrews, Que.; Olivier de Maisonneuve, Terrebonne, Que.; Philias F. Labelle, St. Dorothee, Que.; Pierre Gadbois, Terrebonne, Que.

PASS EXAMINATIONS.

Marticulation—Wm. Bell, H. C. Kingman, Geo. Renwick, T. A. Bishop, E. P. Ball, W. H. Klock, W. P. Robbins, J. H. Oury, Jr., Vilade Seguin, I. A. Levis, A. P. Belaire, Joseph Labelle, C. L. Morin, C. P. Drake, E. Crandall.

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Botany—Prof. J. W. Dawson, McGill University—E. Crundall, Henry C. Kingman, E. P. Ball and J. E. Gardner.

Chemistry—Prof. G. P. Girdwood, McGill University—Jas. Brodie, T. J. O'Connell, Wm. Bell, B. A. Pomeroy, J. A. Duncan, J. Henry, Jr., W. P. Robins, C. D. Bancroft, Geo. Goetz and W. W. Mears.

Physiology—Prof. Osler, McGill University—Jas. Brodie, Fred. Torrance, B.A., C. B. Robinson, A. W. Clement, J. A. Duncan, J. Henry, Jr., Wm. Bell, B. A. Pomeroy, T. J. O'Connell, Geo. Goetz, A. W. Mears.

Materia Medica—Dr. Jas. Bell, Veterinary College—Jas. Brodie, Wm. Bell, J. A. Duncan, A. W. Clement, T. J. O'Connell, J. Henry, Jr., B. A. Pomeroy, A. W. Mears, Geo. Goetz and W. P. Robins.

IN THE FRENCH CLASS.

Botany—Prof. Roy, Victoria College—Fred. Paquin, C. L. Morin, A. P. Belair, Joseph Labelle.

Chemistry—Prof. A. Munier, Victoria College—Fred. Paquin, C. Drouin, H. Pilon, E. C. Crevier.

Physiology—Prof. G. O. Beaudry, Victoria College—Fred. Paquin, C. Drouin, H. Pilon, E. C. Crevier.

PRIZES.

The following prizes were awarded for merit:

In the English Class—For the best general examination, silver medal, the gift of the Council of Agriculture, awarded to A. J. Chandler, Coaticook, P. Q.

Special prize for general proficiency, Alex. Glass.

Practice of Veterinary Medicine and Surgery—1st prize, a microscope, value \$50, the gift of David Morrice, Esq., won by A. J. Chandler.

2d prize, Fred Torrance, B.A.

Junior Class—1st prize, James Brodie; 2d, John Henry, Jr.

Obstetrics and Cattle Pathology—Senior class—1st prize, A. J. Chandler; 2d, Walter Wardle. Junior class—1st prize, James Brodie; 2d, B. A. Pomeroy.

Anatomy—Senior class—1st prize, Walter Wardle; 2d, A. J.

Chandler. Junior class—1st prize, T. J. O'Connell; 2d, James Brodie.

Materia Medica—1st prize, James Brodie; 2d, Wm. Bell.

Botany—Prize, the gift of Professor Dawson, won by E. Crimdale.

Entozoa—Prize, presented by Professor Osler, won by Fred. Torrance, B.E.

Dentistry—A special prize, a tooth rasp, for practical manipulation in dentistry, presented by Wm. Son Bryllen, Boston, won by C. B. Robinson.

In the French Class—For the best general examination, silver medal, the gift of the Council of Agriculture, won by Philias F. Labelle, St. Dorothee, P. Q.; 2d, Paul Paquin; 3d, the gift of the author, J. A. Coutine, V. S., Quebec, won by O de Maisonneuve.—*The Gazette*.

SOCIETY MEETINGS.

NEW YORK STATE VETERINARY SOCIETY.

The regular meeting of this society was held at the American Veterinary College, on Tuesday, April 11, 1882, and called to order by the President, Prof. A. Lautard, at 8 P. M.

After roll call and the reading of the minutes of the last meeting, which were accepted, Dr. L. McLean proposed for membership Drs. Kemp, Devoe and Saunders, whose names were referred to the Committee on Admission, consisting of Drs. Coates and Bunker.

The Committee on Revision of the Constitution and By-Laws reported progress.

Dr. L. McLean reported a case of suspected glanders. The case is one of an aged horse which has had a foetid, viscid, white discharge from both nostrils for the last four weeks. The horse came under the Doctor's care two weeks ago, when he found, in addition to the discharge, that the submaxillary gland on the off side was enlarged and slightly attached to the bone. The sinuses on the same side were enlarged. The mucous membrane of the

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septum nasi was somewhat leaden in hue, the temperature normal. He administered two successive cathartics, without producing any more marked symptoms of glanders. At the present time the sub-maxillary gland has become smaller, and the leaden hue has disappeared from the mucous membranes. He had examined the teeth and buccal cavity without finding any abnormal condition. In answer to the question, "Is this a case of glanders, or not?" the members of the society differed considerably in opinion, the majority not being willing to give a decided opinion *pro* or *con.*

Dr. Michener presented the stomach of a horse, twelve years old, which had been in the stable of the Green-Car Co. for the past three years. During the past two years he has had frequent attacks of colic, which have been relieved readily by the usual treatment. On April 6th he had an attack of colic, and died on the following afternoon. On post-mortem examination the Doctor found impaction of the small intestines, and contraction and induration of the ilio-coecal valve. He found no bots or intestinal parasites. The left side of the stomach presents large surfaces where the epithelium of the mucous membrane has been destroyed by ulceration. The right sac of the stomach is normal.

After the appointments of various committees, Dr. Cattanact was appointed essayist for the next meeting.

Motion to adjourn was then carried.

H. T. FOOTE, M.D., V.S., *Sec.*

CORRESPONDENCE.

REGULATION OF VETERINARY PRACTICE.

Mr. Editor:

In looking over the back numbers of the AMERICAN VETERINARY REVIEW, I find in the May number of 1878 a draft of a bill sent to the Legislature of this State to regulate the practice of veterinary medicine and surgery. This, however, failed to pass. Again we find, in the July number of 1880, that the same bill was reconsidered before the Legislature, but met with the same fate as before. Whatever may be the cause of these failures I

am unable to state. However, it has been stated that the time had not arrived for granting the veterinary profession the protection asked for, nor had they made the advancement in veterinary science to need the protection of legislation.

If the bill was rejected because it asked for more privileges than the Legislature was willing to grant the profession, why not present one in a more modified form? In this connection I will call your attention to the dental law passed and signed by the Governor in June, 1879. They, like the veterinary profession, had met with repeated failures, until the following modified bill was presented and became a law.

Here is a copy of the law, taken from *Johnson's Dental Miscellany*, July, 1879. We will substitute the words veterinary medicine for dentistry:

AN ACT TO REGULATE THE PRACTICE OF VETERINARY MEDICINE AND SURGERY IN THE STATE OF NEW YORK.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. It shall be unlawful for any person to practice veterinary medicine in the State of New York for fee or award, unless he shall have received a proper diploma, or certificate of qualification from the State Veterinary Society, or from the faculty of a reputable veterinary or medical college, recognized as such by said Society; provided that nothing in this Section shall apply to persons now engaged in the practice of veterinary medicine in the State of New York.

§ 2. Any person who shall practice veterinary medicine for fee or reward in this State, without having complied with the regulations of this Act, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not less than fifty, nor more than two hundred dollars for each offense. All such fines shall be paid into the treasury of the county where such conviction shall have taken place, for the benefit of the common schools of the county.

§ 3. Every person practicing veterinary medicine within the

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State shall, within sixty days after the passage of this Act, register in the office of the Clerk of the county where located, in a book to be prepared and kept by the Clerk for that purpose, giving his name, office and post-office address, and the date of such registration; and shall be entitled to a certificate of such registration upon payment to the Clerk of a fee of fifty cents.

§ 4. All acts or parts of acts inconsistent, or in anywise conflicting with the provisions of this Act, are hereby repealed.

§ 5. This Act shall take effect immediately.

FORM OF VETERINARY SURGEON'S CERTIFICATE FROM COUNTY CLERK.

COUNTY CLERK'S OFFICE, }
City and County of }

I, , Clerk of the City and County
of , do hereby certify that ,
in compliance with the above act of the Legislature of the State
of New York, hath this day duly registered his name and address
in a book kept in this office for that purpose.

In witness whereof I have hereunto subscribed
[L. S.] my name and affixed my official seal, this
day of A. D., 18

Clerk.

I think the State Legislature at Albany would willingly enact such a law as the above. And every veterinarian, be he graduate or non-graduate, would be willing to contribute towards procuring the same. It entitles no one to a recognition until he has received a licentiate certificate of qualification from the State Veterinary Society. In this way it would prove a stimulus to every self-educated veterinarian to place himself above the ignorant empirical pretender, to a place more on a level with the regular graduate. This would be a step in the right direction, as it would bring about a union in the profession, and thus in time prove the death blow to quackery and ignorance. If we turn our attention to the veterinary profession in Great Britain, we find that the *Royal College of Veterinary Surgeons* was incorporated in 1844,

with a view of uniting the profession. But it is only within the last two years that the desired result was reached, and only then by admitting those holding the *Highland and Agricultural Society's* certificates almost on their own terms. Thus, it will be seen, it took over thirty years to accomplish what could have been done in far shorter time had a more liberal policy been followed by the members of that body.

Great and good works no doubt advance slowly, but it is better to gain little by little the passage of such a law as would be productive of some good results, than to make no progress at all. If the profession cannot advance one foot, be satisfied with one inch; and just as sure as effects follow causes, as the sparks fly upwards, and bodies fall to the ground, will their efforts be rewarded, and result in the desired progress of the veterinary profession.

Respectfully yours,

J. C. MCKENZIE.

ROCHESTER, N. Y., Feb. 13, 1882.

DR. STEIN A REGULAR GRADUATE.

FORT LEAVENWORTH, KAN., March 7, 1882.

Editor of the Review:

In the November issue of the *Review*, I made the statement that Dr. Stein was a non-graduate. I am informed by the aggrieved party that he is a graduate of the Berlin Military Veterinary College, and that his diploma bears date 1862. Through your columns I beg to right an unintentional wrong, which occurred in spite of my endeavors to verify all statements made. Dr. Stein has my apology for the error.

Very respectfully,

A. A. HOLCOMBE.

STANDING OF AMERICAN GRADUATES IN ENGLAND.

Editor American Veterinary Review:

DEAR SIR.—Perhaps the enclosed letter will interest those of

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your readers who are graduates of the American Veterinary College. It was received in answer to the question as to what position a graduate of the American Veterinary College would occupy professionally should he wish to practice in England under the Veterinary Act lately passed there, and whether clause 13 of said act was intended to apply in such an instance. The clause says the holders of diplomas from *recognized* Colleges would be entitled to practice there under the Act, "and to become to all intents a member of said Royal College."

Yours truly,

W. H. PENDRY.

BROOKLYN, April 14, 1882.

ROYAL COLLEGE OF VETERINAY SURGEONS,
10 RED LION SQUARE, W. C., }
March 31, 1882. }

DEAR SIR.—Your letter dated 19th inst., has been handed to me by the President, Geo. Fleming, Esq., and I am now directed to inform you that your solution of clause "13" of the above act is quite correct, *i. e.* that the same applies to those who are holders of diplomas from recognized colleges in foreign countries.

Yours faithfully,

A. W. HILL, Sec'y.

MR. W. H. PENDRY, Brooklyn, U. S. A.

NOTICE.

ODD NUMBERS OF THE "REVIEW."

We have received information from many of our readers that they are in possession of odd numbers of the REVIEW for one, two, and even three years. If these gentlemen will do us the favor of returning all duplicate numbers, they will afford us the opportunity to distribute them to parties who miss them. Direct them AMERICAN VETERINARY REVIEW, 141 West 54th Street, New York, N. Y.

NEWS AND SUNDRIES.

THE recent influenza has been accompanied by an unusual number of abortions.

CATTLE COMMISSION.—The report of the Treasury Cattle Commission is received, but too late for extended notice in this issue.

THE first importation of cattle into the United States was in 1610, when a bull and four cows, after a long and stormy passage, landed in Virginia from Ireland.—*The Iowa Homestead*.

DISEASES OF FOWLS.—The amount of wealth represented by the poultry interest of the United States, should compel all country practitioners to make careful studies and reports of the diseases of fowls.

SPLENIC FEVER VACCINE.—Pasteur's Splenic Fever Vaccine matter is to be tried in Prussia. The Minister of Agriculture has empowered a commission, of which Virchow is a member, to investigate its value.

LEGISLATIVE PROTECTION NEEDED.—Every veterinarian should use his influence to secure the passage by this Legislature, of a bill to elevate the standard of the profession and protect the public against unqualified and ignorant "horse-doctors."

A BREEDING MARE MULE.—Mr. E. Allen, of Agency City, Iowa, is the owner of a breeding mare mule. She has had three colts from horses, and is at present in foal by a jack. The progeny bear no resemblance to the mother, except in fineness of bone. Affidavits of reliable parties verify this remarkable phenomenon.

SINGULAR LONGEVITY.—A writer in *Land and Water* speaks of the recent deaths of a pony and canary bird, the former aged 38 years and the latter 19 years. The pony died of a gun-shot wound, and was hearty and well just before the shooting. The canary died a natural death through the infirmities of age.—*Turf, Field and Farm*.

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HEAVY HEIFER.—W. L. Mullin, Winfield, Kas., writes to the *Kansas City Indicator*, as follows: I thought I would send you a description of perhaps the largest heifer in the world. She was four years old last May, clear white, and weighs 2,800 lbs., 17 hands high, 12 feet around the girth, and 32 inches around the forearm. She was raised in Cowley county, Kansas.

CATTLE CENSUS.—Out of 157,588,521, the number of cattle estimated to be in the world, 35,907,791, including all kinds, were in this country at the taking of the last census. Out of 382,763, 015, sheep we had 51,183,903 head. Out of 81,990,330 hogs, we had 47,688,874, which would place the United States as the foremost hog country in the world, with more than one half of the grand total.—*The Farmer's Review*.

PRESERVATION OF ANATOMICAL SPECIMENS.—L. Gerlach recommends the glycerine process of Van Vetter, which has been somewhat modified, first by Stieda, and then by Gerlach himself. Stieda's recipe is as follows: Make a mixture of 6 parts of glycerine, 1 of brown sugar, and $\frac{1}{2}$ part of saltpeter; Gerlach uses 12 instead of 6 parts of glycerine. The preparations are cleaned and laid in this liquid, in which they remain from three to six weeks, according to their size. When taken out they have a dark brown color and are quite firm; they are then hung up in a chamber of the temperature of 12°-14° R. (59° to 63 $\frac{1}{4}$ ° Fahr.) In the course of eight to ten days they become soft and flexible, but must be allowed to hang from two to six months longer, to be available for demonstrations. The more glycerine used, the lighter in color the preparations remain. The method is best applied to preparations of articulations, to sense organs (eye, ear), larynx, etc. The formation of a crystalline precipitate, which sometimes appears in the drying, is met by the increase in the proportion of glycerine, and a diminution of the saltpeter and sugar. If large objects are to be set up, such as whole extremities with their muscles, or the thorax with the ligaments dissected, pure glycerine is preferable to the cheap crude article, for specimens turn out whiter and less hard in it. Gerlach has used it for temporal bone with tympanum and auditory ossicles, and obtained

valuable preparations which may be employed with great success to demonstrate the transmission of waves of sound from the tympanum to the labyrinth.

EXCHANGES, ETC., RECEIVED.

FOREIGN.—Veterinarian, Veterinary Journal, Clinica Veterinaria, Archives Veterinaires, Recueil de Medecine Veterinaire, Annales de Belgique, Revue fur Thierheilkunde und Thierzucht, Presse Veterinaire, Revue de Hygiene, Gazette Medicale.

HOME.—Medical Record, Turf, Field and Farm, American Agriculturist, American Cultivator, Country Gentleman, Medical and Surgical Reporter, Bulletin of the National Board of Health.

JOURNALS.—New York Weekly Witness, American Dairyman, Farmers' Review, Daily Register (Mobile), Coleman's Rural World, Times of Natal, Medical Herald, Western Farm Journal, &c., &c.

BOOKS.—Report of the Treasury Cattle Commission, Report of the National Board of Health, The Horse in Motion.

PAMPHLETS.—Les Cheveaux de l'Amerique du Nord, Etat Sanitaire des animaux domestiques de Belgique, Agricultural Record and Journal.

COMMUNICATIONS.—I. B. Rogers, W. H. Pendry, A. A. Holcombe, J. Murray, C. Ring, M.D., E. A. A. Grange, H. N. Keifer, M. T. Tracy, J. B. Garrison, M.D.

NOTICE.—A few copies of vol. 4 and 5 of the REVIEW can be had at \$3.00 each.